STATE OF MARYLAND

DHMH

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November 13, 2009

Public Health & Emergency Preparedness Bulletin: # 2009:44
Reporting for the week ending 11/07/09 (MMWR Week #44)

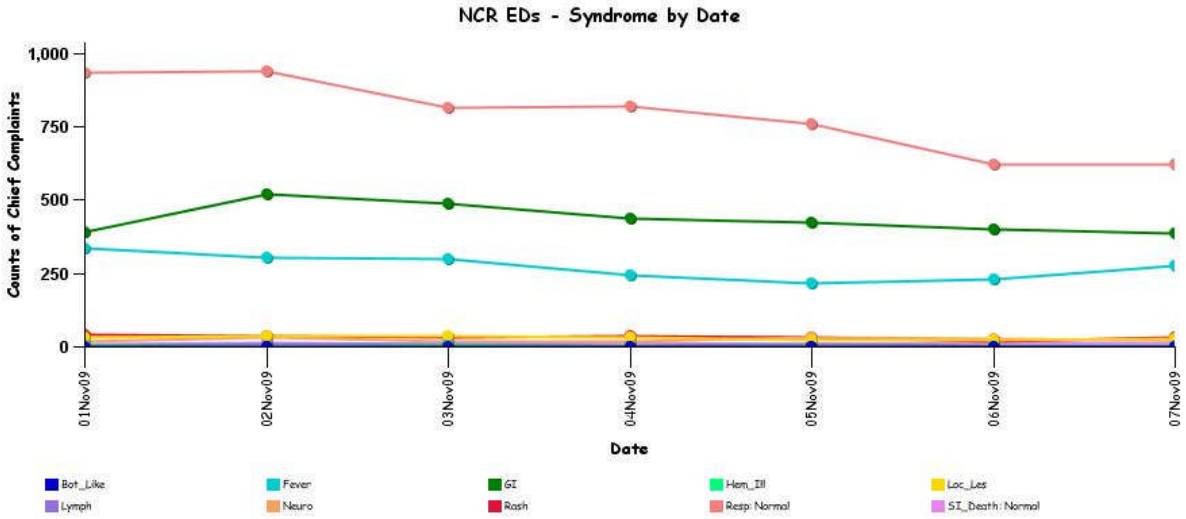
CURRENT HOMELAND SECURITY THREAT LEVELS

National: **Yellow (ELEVATED) *The threat level in the airline sector is Orange (HIGH)**
Maryland: **Yellow (ELEVATED)**

SYNDROMIC SURVEILLANCE REPORTS

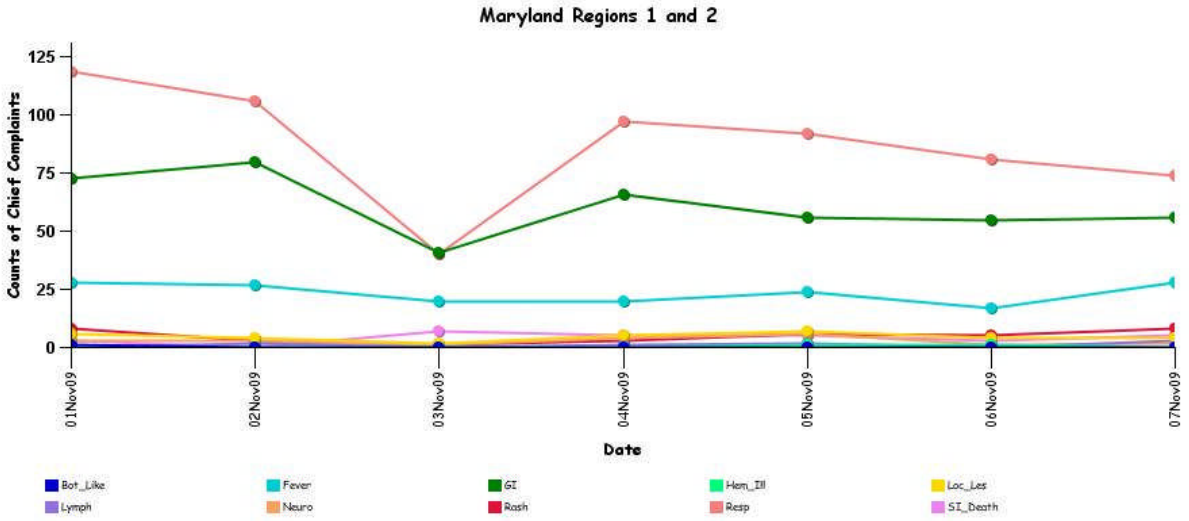
ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics):
Graphical representation is provided for all syndromes, excluding the "Other" category, all age groups, and red alerts are circled.
Note: ESSENCE – ANCR Spring 2006 (v 1.3) now uses syndrome categories consistent with CDC definitions.

Overall, no suspicious patterns of illness were identified. Track backs to the health care facilities yielded no suspicious patterns of illness.

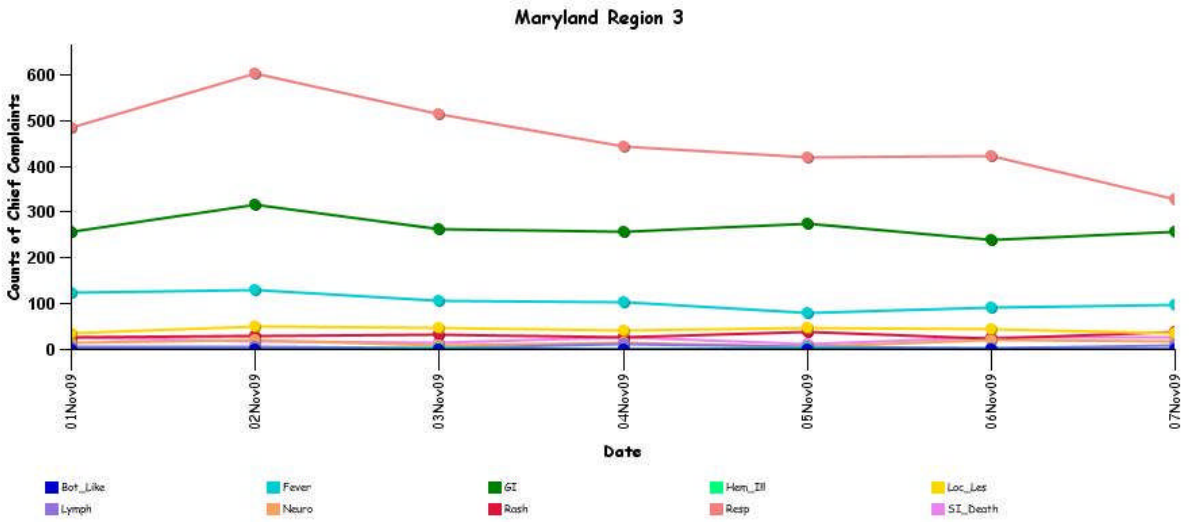


* Includes EDs in all jurisdictions in the NCR (MD, VA, and DC) reporting to ESSENCE

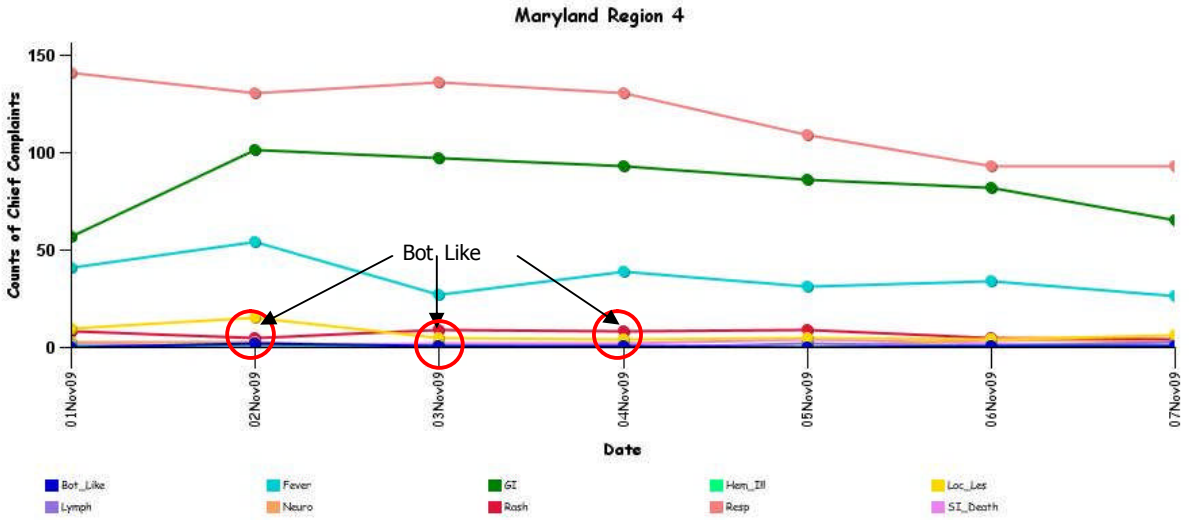
MARYLAND ESSENCE:



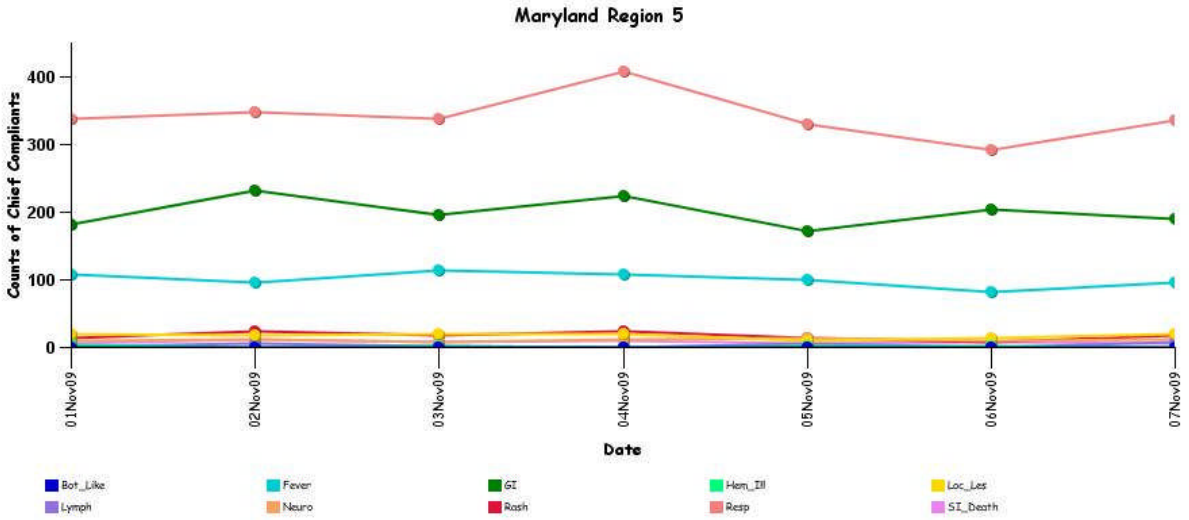
* Region 1 and 2 includes EDs in Allegany, Frederick, Garrett, and Washington counties reporting to ESSENCE



* Region 3 includes EDs in Anne Arundel, Baltimore city, Baltimore, Carroll, Harford, and Howard counties reporting to ESSENCE

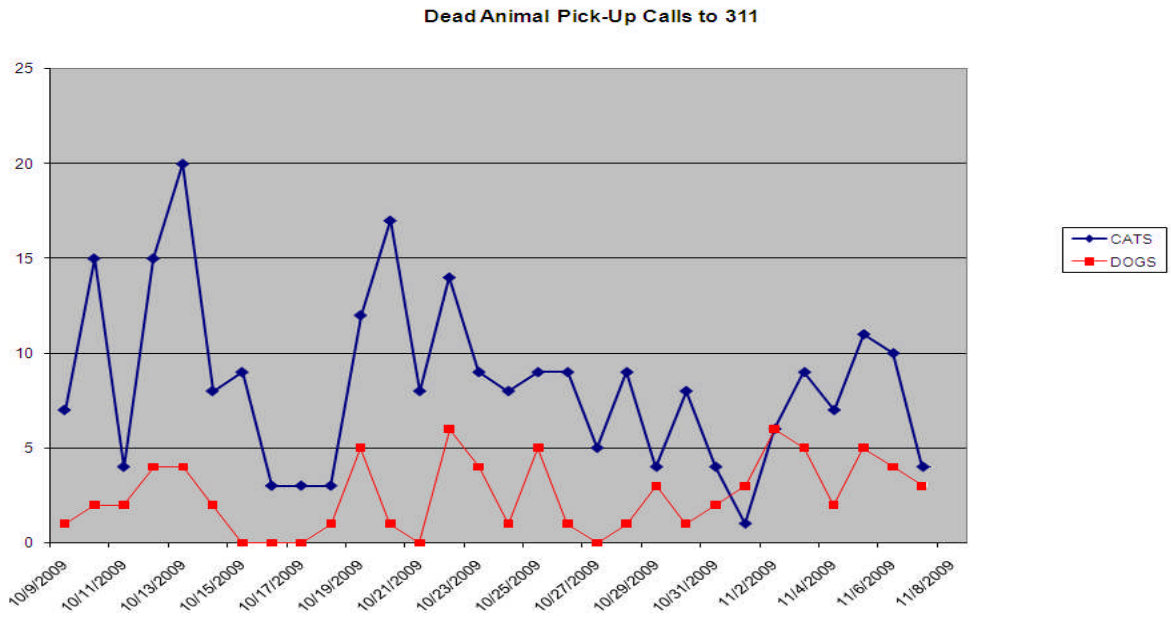


* Region 4 includes EDs in Cecil, Dorchester, Kent, Somerset, Talbot, Wicomico, and Worcester counties reporting to ESSENCE



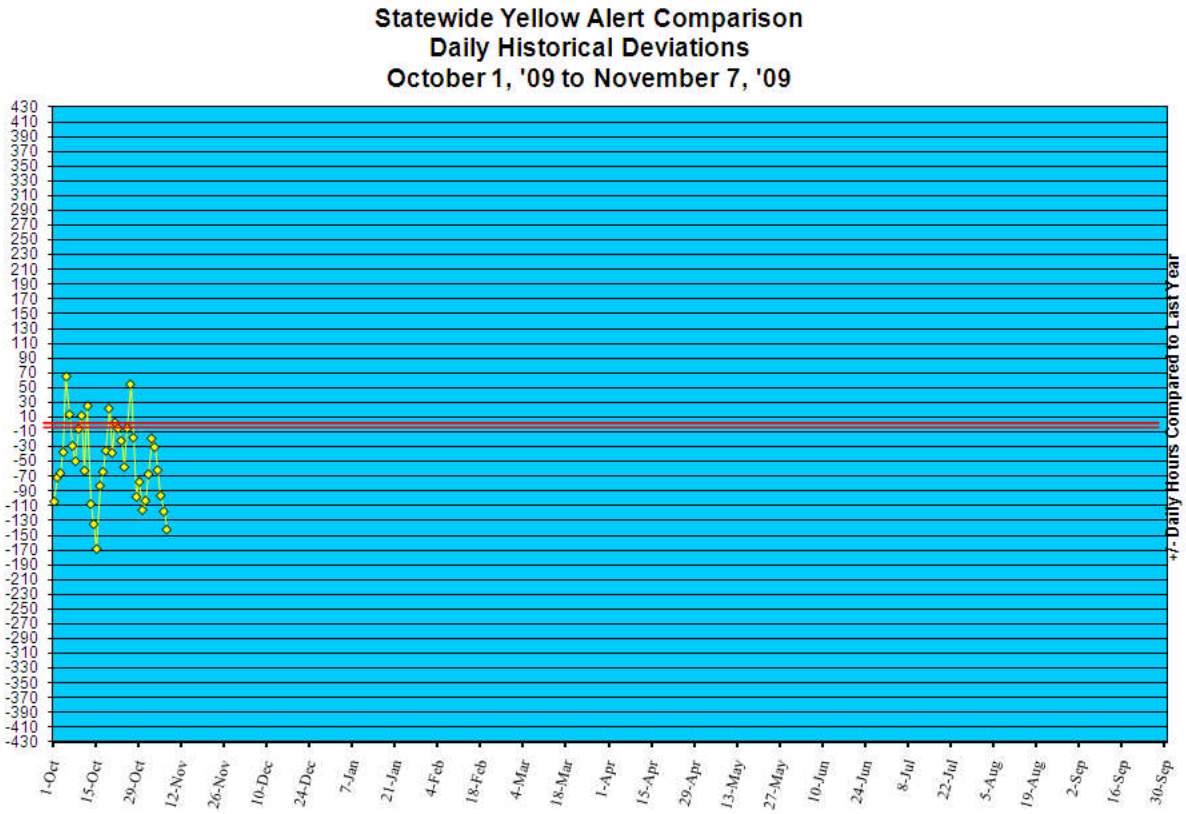
* Region 5 includes EDs in Calvert, Charles, Montgomery, Prince George's, and St. Mary's counties reporting to ESSENCE

BALTIMORE CITY SYNDROMIC SURVEILLANCE PROJECT: No suspicious patterns in the medic calls, ED Syndromic Surveillance and the animal carcass surveillance. Graphical representation is provided for animal carcass surveillance 311 data.



REVIEW OF EMERGENCY DEPARTMENT UTILIZATION

YELLOW ALERT TIMES (ED DIVERSION): The reporting period begins 10/01/09.



REVIEW OF MORTALITY REPORTS

Office of the Chief Medical Examiner: OCME reports no suspicious deaths related to an emerging public health threat for the week.

MARYLAND TOXIDROMIC SURVEILLANCE

Poison Control Surveillance Monthly Update: Investigations of the outliers and alerts observed by the Maryland Poison Center and National Capital Poison Center in September 2009 did not identify any cases of possible public health threats.

REVIEW OF MARYLAND DISEASE SURVEILLANCE FINDINGS

COMMUNICABLE DISEASE SURVEILLANCE CASE REPORTS (confirmed, probable and suspect):

Meningitis:	**Aseptic**	**Meningococcal**
New cases (Nov 01- Nov 07, 2009):	08	0
Prior week (Oct 25- Oct 31, 2009):	16	0
Week#44, 2008 (Oct 26 – Oct 30, 2008):	02	0

OUTBREAKS: 27 outbreaks were reported to DHMH during MMWR Week 44 (November 01-07, 2009):

25 Respiratory illness outbreaks

21 outbreaks of ILI in Schools
1 outbreak of ILI in a Daycare
1 outbreak of INFLUENZA in a Nursing Home
1 outbreak of INFLUENZA in a School
1 outbreak of INFLUENZA in an Institution

1 Gastroenteritis outbreak

1 outbreak of GASTROENTERITIS in a School

1 Rash illness outbreak

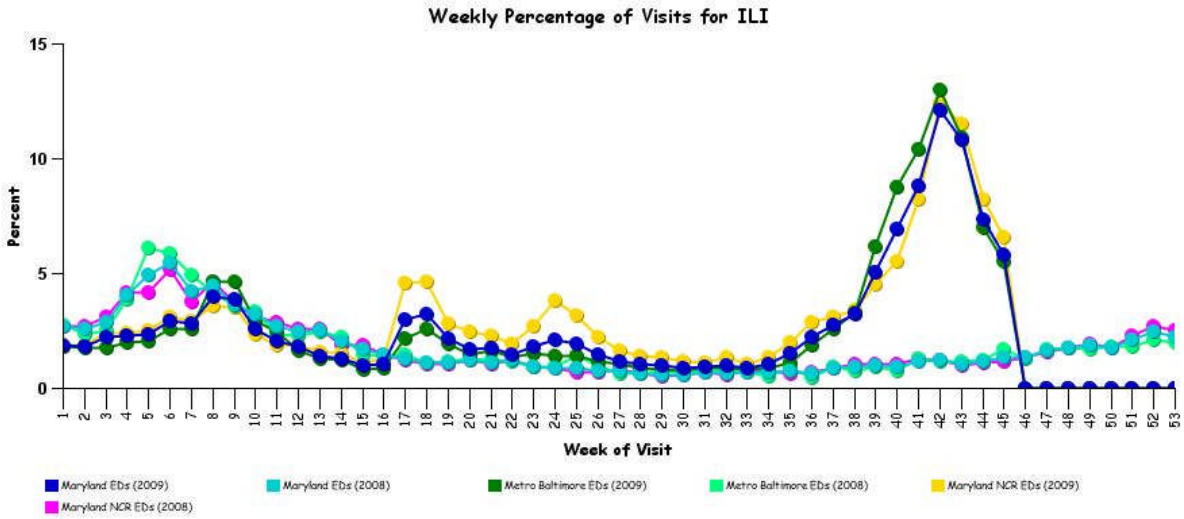
1 outbreak of Roseola in a Daycare Center

MARYLAND INFLUENZA STATUS: Influenza activity in Maryland for Week 44 is WIDESPREAD.

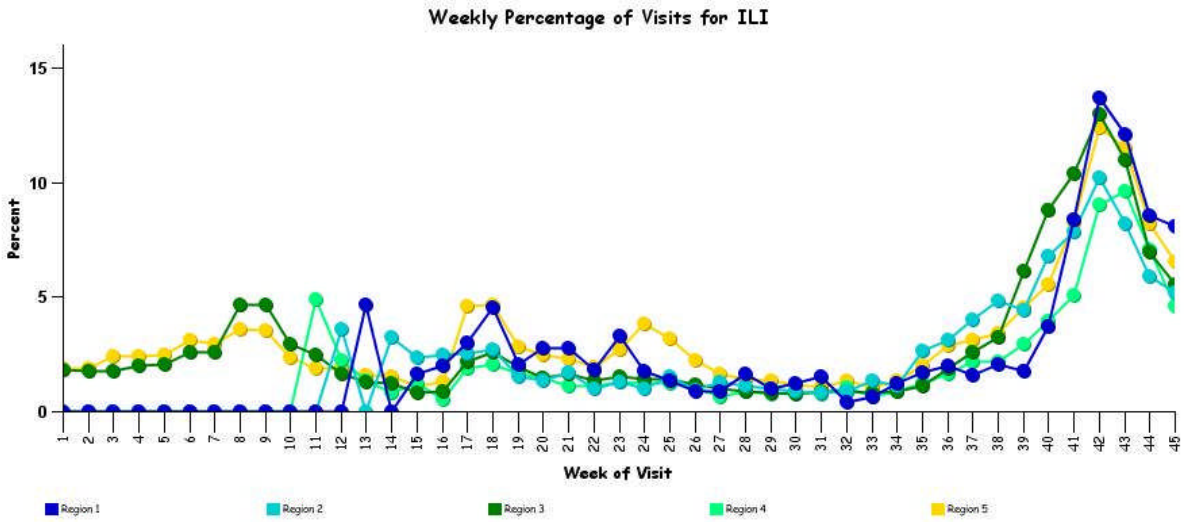
SYNDROMIC SURVEILLANCE FOR INFLUENZA-LIKE ILLNESS

Graphs show the percentage of total weekly Emergency Department patient chief complaints that have one or more ICD9 codes representing provider diagnoses of influenza-like illness. These graphs do not represent confirmed influenza.

Graphs show proportion of total weekly cases seen in a particular syndrome/subsyndrome over the total number of cases seen. Weeks run Sunday through Saturday and the last week shown may be artificially high or low depending on how much data is available for the
week.



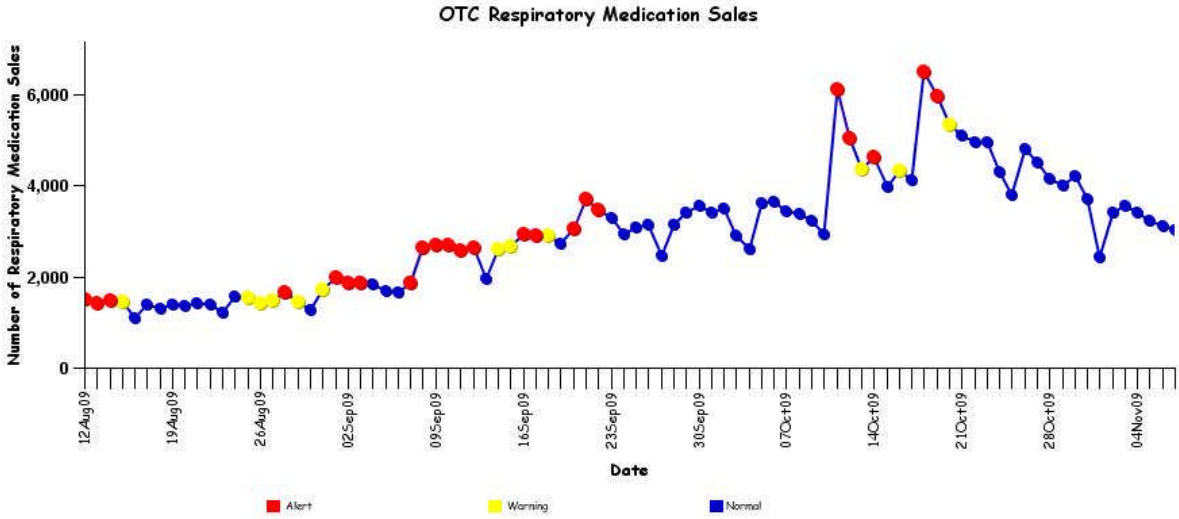
* Includes 2008 and 2009 Maryland ED visits for ILI in Metro Baltimore (Region 3), Maryland NCR (Region 5), and Maryland Total



*Includes 2009 Maryland ED visits for ILI in Region 1, 2, 3, 4, and 5
2009 data for these regions are depicted separately to establish baselines, due to the addition of new hospitals in these regions.

OVER-THE-COUNTER (OTC) SALES FOR RESPIRATORY MEDICATIONS:

Graph shows the daily number of over-the-counter respiratory medication sales in Maryland at a large pharmacy chain.



PANDEMIC INFLUENZA UPDATE:

WHO Pandemic Influenza Phase: Phase 6: Characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. Designation of this phase will indicate that a global pandemic is under way. Definition of Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

US Pandemic Influenza Stage: Stage 0: New domestic animal outbreak in at-risk country

**More information regarding WHO Pandemic Influenza Phase and US Pandemic Influenza Stage can be found at:
http://preparedness.dhmh.maryland.gov/Docs/PandemicInfluenza/PandemicInfluenzaResponseAnnex(Version7.2).pdf

AVIAN INFLUENZA-RELATED REPORTS:

WHO update: As of September 24, 2009, the WHO-confirmed global total of human cases of H5N1 avian influenza virus infection stands at 442, of which 262 have been fatal. Thus, the case fatality rate for human H5N1 is about 60%.

AVIAN INFLUENZA (VIET NAM): 03 Nov 2009, Bird flu has re-emerged in the northern province of Dien Bien in Viet Nam, according to a report from the Animal Health Department under Viet Nam's Ministry of Agriculture and Rural Development on Monday [2 Nov 2009]. The bird flu broke out in 9 local farms from 21 to 23 Oct 2009, killing hundreds of poultry, said the report. Poultry samples tested by the provincial animal health agency showed positive for the H5N1 virus, it said. Local animal health authorities have been implementing measures to curb the spread of the bird flu virus to nearby areas, including the culling of over 2200 remaining poultry, said the department. Dien Bien currently is the only province of Viet Nam being re-hit by the avian flu after it was confirmed of being free of the H5N1 virus for several months this year [2009]. Viet Nam has reported 5 human cases of bird flu infection so far this year [2009], 4 of which were fatal.

AVIAN INFLUENZA, HUMAN, H9 (CHINA): 03 Nov 2009, The Centre for Health Protection is investigating an imported case of H9 influenza A infection involving a 47 year old Guangdong woman. She came down with breathlessness and a cough 26 Oct 2009. She came to Hong Kong for medical treatment and was admitted to Queen Mary Hospital on 28 Oct 2009. She is stable and remains in isolation. She had an underlying medical condition requiring regular medication. Her family members have been put under medical surveillance. As she was in Guangdong during the incubation period, the centre has informed health authorities there and the World Health Organization, the Ministry of Health, and Macau's health authorities of the development. H9 influenza A is a mild form of avian influenza. Infection in humans is rare. This is the 6th time H9 viruses have been found in humans in Hong Kong. A total of 4 girls and one boy were confirmed to have suffered from H9 infection in 1999, 2003, 2007 and 2008. People should avoid contact with live poultry to minimise the chance of being infected with avian flu.

H1N1 INFLUENZA (Swine Flu):

INFLUENZA PANDEMIC (H1N1), EUROPE: 07 Nov 2009, The pandemic (H1N1) 2009 influenza virus could kill up to 40 000 people across Europe and be followed by seasonal flu waves that could kill the same number, European health experts said on Friday [6 Nov 2009]. The Sweden-based European Center for Disease Prevention and Control [ECDC] said epidemics of pandemic (H1N1) 2009 virus infection, known as swine flu, were now affecting almost all countries in the European Union but it could not predict how intense the peaks would be. What was certain, it said, was that the pandemic would continue to kill thousands and put many patients into intensive care as the northern hemisphere's winter sets in. "All European countries will be affected, and this will put considerable stress on health care systems," said ECDC director Zsuzsanna Jakab. ECDC, which monitors disease in the European Union and European free trade area (EFTA), said it was hard to predict what the mix of pandemic and seasonal flu viruses would bring but there was a risk of seasonal flu epidemics "early in 2010 when the pandemic waves have passed." Angus Nicoll, the ECDC's flu coordinator, said in non-pandemic situations, seasonal flu could kill up to 40 000 people in Europe -- and [pandemic] H1N1 could do the same. "That is not a trivial number," he said. "And the fact that [pandemic] H1N1 is happening in younger adults, pregnant women and people without risk factors ... makes it feel different."ECDC said experience from the United States and the southern hemisphere showed pregnant women with the virus are 10 times more likely to need intensive care than those with no risk factors. Those with asthma and chronic respiratory diseases have 3 times the risk and the very obese 6 times the risk. But it also said evidence so far shows some 20 to 30 per cent of [pandemic] H1N1 deaths are among healthy young people. ECDC's latest daily update said all 27 EU and 4 EFTA countries have cases of H1N1 pandemic flu and there have been 389 deaths linked to [pandemic] H1N1 in the region since April [2009], including 154 in Britain, 73 in Spain, 25 in Italy, and 22 in France. ECDC's global toll showed 6005 fatal cases of [pandemic] H1N1 have been reported. WHO, which updates its figures weekly, said on Thursday that 5712 people have died worldwide since [pandemic] H1N1 was discovered earlier this year. ECDC said the numbers of fatal cases associated with pandemic flu were "likely to be gross underestimates" as access to health care and lab tests varied from country to country. GlaxoSmithKline and Sanofi-Aventis are among some 25 companies making pandemic vaccines, while other drugmakers including Roche are making antiviral therapies for use as frontline H1N1 treatment. Nicoll said vaccination programs which started in some European countries in recent weeks were vital to protecting those most at risk but had come too late to halt the disease. "We're not trying at this stage to protect the whole of society with the vaccines. The strategy is to protect the vulnerable.

INFLUENZA a (H1N1) 2009), ANIMAL, SWINE (USA): 06 Nov 2009, The US Department of Agriculture says pigs in a commercial herd in Indiana have tested positive for the H1N1 flu virus. This is the 1st instance of H1N1 flu, also known as swine flu, in a commercial herd in the United States. The USDA says it discovered 4 tissue samples that tested positive for the virus using its swine surveillance program. The USDA says the pigs as well as the people caring for the pigs have recovered. The sample was collected in late October [2009]. Last month [October 2009], tests confirmed several show pigs at the Minnesota State Fair contracted the virus.

INFLUENZA PANDEMIC (H1N1) 2009, ANIMAL, FELINE (USA, IOWA): 05 Nov 2009, A cat in Iowa has tested positive for the 2009 H1N1 influenza virus, state officials confirmed this morning [4 Nov 2009], marking the 1st time a cat has been diagnosed with this strain of influenza. The cat, which has recovered, is believed to have caught the virus from someone in the household who was sick with H1N1. There are no indications that the cat passed the virus on to any other animals or people. Prior to this diagnosis, the 2009 H1N1 influenza virus had been found in humans, pigs, birds, and ferrets. The American Veterinary Medical Association (AVMA) and the American Association of Feline Practitioners (AAFP) are reminding pet owners that some viruses can pass between people and animals, so this was not an altogether unexpected event. Pet owners should monitor their pets' health very closely, no matter what type of animal, and visit a veterinarian if there are any signs of illness. The AVMA is actively tracking all instances of H1N1 in animals and posting updates on our website at <http://www.avma.org/public_health/influenza/new_virus>.

INFLUENZA (H1N1) 2009), Regional update: 04 Nov 2009, The information contained within this update is obtained from data provided by Ministries of Health of Member States and National Influenza Centers through reports sent to Pan American Health Organization (PAHO) or updates on their web pages.

North America: Widespread influenza activity and increased trends in acute respiratory disease continued this week. In Canada, the national influenza-like illness (ILI) consultation rate increased again relative to the last week and remained above average for the 4th consecutive week. There was a sharp increase in the number of influenza outbreaks and these continued to be reported mostly in school settings. The proportion of tests positive for influenza sharply increased this week to 29.0 per cent from 16.9 percent.

In the United States, ILI consultations continued to increase, remaining above the national baseline for the 9th consecutive week. Laboratory-confirmed influenza hospitalization rates remained high, especially in persons 5 to 49 years of age. The proportion of deaths attributed to pneumonia and influenza remained above the epidemic threshold for the 3rd consecutive week. All subnational regions continued to report outpatient ILI activity above their regional baseline, but some regions in the south and west reported some small decreases over the past week. A total of 22 influenza-associated pediatric deaths were reported this week, of which 19 were associated with the pandemic virus. Of these pediatric deaths, the majority were in children 5-17 years of age.

Caribbean: These countries continue to report variable trends in acute respiratory disease. Intensity of acute respiratory disease was reported as both high and low/moderate, while impact of acute respiratory disease on health care services was reported as both low and moderate. This week, Barbados reported 8 cases of co-infection with pandemic influenza and dengue-3, diagnosed by

RT-PCR. In this region, for countries providing these data, severe acute respiratory infection (SARI) hospitalization rate have been increasing over the past 3 weeks, reaching the highest rate this year [2009].

Central America: This week, trends of acute respiratory disease remained unchanged or were decreasing. Intensity of acute respiratory disease remained low/moderate and impact of acute respiratory disease on health care services was low. This week, Nicaragua reported 8 cases of co-infection with influenza and dengue diagnosed by RT-PCR and ELISA, respectively.

South America: These countries continued to report widespread influenza activity. The majority of the countries reported decreasing trends in acute respiratory disease. Colombia, however, has been reporting increasing trends for 7 consecutive weeks. Overall, intensity of acute respiratory disease remained low/moderate as did impact of acute respiratory disease on health care services. Venezuela reported an outbreak of acute respiratory infection in the indigenous Yanomami community of Mawaka parish in the municipality of Alto Orinoco in Amazonas State. Thus far, 2 samples were positive for pandemic (H1N1) 2009. Although there were no significant changes in acute respiratory disease activity as compared to last week, Argentina reported high levels of ILI activity in the provinces of Buenos Aires and Santa Fe. Brazil continued to experience a decreasing trend of acute respiratory disease, with low/moderate intensity of acute respiratory disease, and low impact on health care services.

Viral resistance: To date, CDC has tested 240 influenza pandemic isolates from 18 countries of the region, all of which were sensitive to neuraminidase inhibitors. In the United States, however, a total of 14 isolates have been identified which are resistant to oseltamivir. As of 30 Oct 2009, a total of 185 067 confirmed cases have been notified in all 35 countries in the Americas Region. A total of 4399 deaths have been reported among the confirmed cases in 26 countries of the Region.

Resources:

http://www.cdc.gov/h1n1flu/

http://www.dhmh.maryland.gov/swineflu/

NATIONAL DISEASE REPORTS

E. COLI O157, GROUND BEEF (USA): 03 Nov 2009, The Centers for Disease Control and Prevention [CDC] said 28 people in 12 states from California to Maine are now infected with matching strains of _Escherichia coli_ [O157] after an outbreak in ground beef. Of those people, 16 are in hospitals and 3 have developed kidney failure as a result of the contamination, CDC said late on Monday [2 Nov 2009] adding that 2 people have died after becoming infected. The US Department of Agriculture announced last week [week of 26 Oct 2009] that Fairbank Farms in Ashville, New York, was recalling more than half a million pounds [about 250 000 kg] of fresh ground beef products that may be contaminated with a strain of _E. coli_. The products subject to recall were sent to retailers including Trader Joe's, Price Chopper, Lancaster, and Wild Harvest, Shaw's, BJ's, Ford Brothers, and Giant Food Stores. The exact products affected are listed on the USDA's website. The recall was for distribution centers in 8 states, but Fairbank Farms said some retailers may have sent the affected beef to other states. Each package is printed with "EST. 492" inside the USDA mark of inspection or on the nutrition label. They were packaged on 15 and 16 Sep 2009 and may have been labeled at the retail stores with a sell-by date from 19 to 28 Sep 2009 through 28, the USDA said. The USDA's Food Safety and Inspection Service [FSIS] advised consumers to safely prepare raw meat products, whether they are fresh or frozen, and only consume ground beef that has been cooked to a temperature of 160 deg F [71 deg C]. The only way to be sure ground beef is cooked to a high enough temperature to kill harmful bacteria is to use a food thermometer to measure the internal temperature, the FSIS said. Of the 28 people infected from the outbreak, 8 are in Massachusetts; 4 are in each of Connecticut and New Hampshire; 2 are in each of Maine, Pennsylvania, and South Dakota; and there is 1 in each of California, Maryland, Minnesota, New Jersey, New York, and Vermont, according to CDC. (Food Safety Threats is listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

INTERNATIONAL DISEASE REPORTS

Q FEVER (NETHERLANDS): 07 Nov 2009 Currently 80 out of the 360 goat farms in the Netherlands appear infected with Q fever. This was reported by the Animal Health Service in Deventer. Confirmation of tests will take another 2 weeks. Measures will not be applied until 4 weeks from now. So far this year 4 goat farms in the Netherlands were officially declared contaminated, based on a former detection method. A farm was considered infected only if the percentage of abortions was larger than 5 per cent. However, it appears that the agriculture ministry knew that another 41 farms had infected goats, based on milk sample tests. No measures were applied to these farms. In sheep farms Q fever is rare. From 40 farms, only one proved infected.
Q fever is a serious zoonosis that causes not that severe problems in goats, but has high morbidity in people with serious symptoms: fatigue, high fever, serious headaches, severe pneumonia, sometimes resulting in hospitalization and even death. The causal agent is _Coxiella burnetii_, which spreads through air. The bacterium is particularly dangerous in case of pregnancy or heart valve abnormalities. In the Netherlands, the outbreak started in 2007 in Herpen, a village in the south of the country, and since then the disease has spread every year. 6 people died. This year 2100 people were infected. It is the largest outbreak of Q fever

ever reported in the world. Controlling the disease is difficult, because the bacteria do not disappear from the soil. Until now, measures consisted of prohibition of spreading out manure and moving animals from infected farms. Results of vaccination are still being investigated by the Animal Health Service. The vaccine seems to prevent abortion and animals produce sufficient antibodies, but it is not clear yet whether excretion of bacteria is prevented. Milk production may decrease by 8 to 10 percent in the 1st weeks following vaccination. The Dutch authorities commissioned the National Institute for Public Health and the Environment (RIVM) to develop scenarios to fight Q fever, considering also moving or closing down farms. (Q Fever is listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

INFANT BOTULISM (UK): 06 Nov 2009, A 16 week old baby from Fife is being treated in hospital after contracting botulism. The infant, from Oakley in Dunfermline, is described as in serious but stable [condition] in hospital in Edinburgh. A spokeswoman for Health Protection Scotland said, "Based on our electronic records, which go back to 1983, we have not seen a laboratory report of an infant botulism case. There have been no cases of any kind of botulism in Scotland in the last year." (Botulism is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

JAPANESE ENCEPHALITIS (INDIA): 04 Nov 2009, With 3 more children hailing from Kushinagar succumbing to encephalitis today [4 Nov 2009], the toll due to the deadly brain fever has reached 481 since January [2009] in eastern districts of Uttar Pradesh. Additional director of health LP Rawat said [in Gorakhpur] that 14 fresh patients suffering from the fever were admitted to various hospitals in the region. He said that a total of 2787 patients suffering from Japanese encephalitis and acute encephalitis syndrome (AES) were admitted this year [2009] to BRD Medical College Hospital [BRD MCH] and other hospitals of the region. Of these, 481 died. The additional director of health said that 174 patients suffering from encephalitis are undergoing treatment at BRD MCH, while 9 patients are admitted in government hospitals of adjoining districts. (Viral Encephalitis is listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

SALMONELLOSIS, SEROTYPE ENTERITIDIS (UK): 03 Nov 2009, A salmonellosis warning has been issued as 2 people have died in 9 outbreaks across the country, prompting the Health Protection Agency [HPA] to launch a full investigation.Around 130 people have fallen ill with the same strain of _Salmonella enterica_ linked to poultry and eggs since August 2009 across England and Wales. 5 outbreaks have been linked to Asian restaurants, 3 to other restaurants, and the other was in a care home. 2 people with the infection died in the care home, which has not been named by officials, but postmortem results have proved inconclusive about the cause of death. 3 other people have been treated in hospital, a report from the HPA said. The HPA is investigating the outbreaks as it is thought a common food source could be responsible, particularly because the cases involve the same strain of the infection out of a possible 2500 types. Poultry and eggs are considered the most likely source and officials are interviewing patients to establish any patterns in what they have eaten. The strain involved in the outbreaks, known as _S._ enterica serotype Enteritidis PT14b NxCpl, is showing some resistance to antimicrobial agents. Experts said the fact it is showing resistance is not important for public health reasons but is being used as a way of identifying cases and helped to confirm that the outbreaks of the infection are probably connected. On top of the outbreaks there has been an increase in isolated cases of salmonellosis in recent weeks, but HPA officials said this generally happens at this time of year and the numbers are not unexpectedly high. There have been a total of 259 cases in England and Wales since August 2009, 136 of which are connected to the 9 outbreaks. Gastroenterologists and public health experts at the HPA are working with the Food Standards Agency and environmental health officers to try and establish if there is a one food source that has caused the outbreaks. The report said: "Preliminary investigations have suggested putative links to chicken and/or eggs in some outbreaks, and this is being actively tested through analytical epidemiological studies and appropriate investigation of supply chains." (Food Safety Threats are listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

OTHER RESOURCES AND ARTICLES OF INTEREST

More information concerning Public Health and Emergency Preparedness can be found at the Office of Preparedness and Response website: http://preparedness.dhmh.maryland.gov/

Maryland's Resident Influenza Tracking System: www.tinyurl.com/flu-enroll

Factors Associated With Death or Hospitalization Due to Pandemic 2009 Influenza A(H1N1) Infection in California
People age 50 and older who were hospitalized with swine flu [influenza pandemic (H1N1) 2009 virus infection] in California had the highest fatality rate from the illness, while those younger than 18 had the lowest death rates. Researchers from the California Department of Public Health looked at 1088 cases of hospitalization and death attributed to [pandemic] H1N1 from 23 Apr 2009, shortly after the virus was discovered, to 11 Aug 2009. The findings are published in this week's Journal of the American Medical Association [JAMA 2009; 30(17): 1896-902, 4 Nov: Factors associated with death or hospitalization due to pandemic 2009 influenza A (H1N1) infection in California. JK Louie, M Acosta, K Winter, et al; <http://jama.ama-ssn.org/cgi/content/abstract/302/17/1896>; for Abstract.

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NOTE: This weekly review is a compilation of data from various surveillance systems, interpreted with a focus on a potential BT event. It is not meant to be inclusive of all epidemiology data available, nor is it meant to imply that every activity reported is a definitive BT event. International reports of outbreaks due to organisms on the CDC Critical Biological Agent list will also be reported. While not "secure", please handle this information in a professional manner. Please feel free to distribute within your

organization, as you feel appropriate, to other professional staff involved in emergency preparedness and infection control.

For questions about the content of this review or if you have received this and do not wish to receive these weekly notices, please e-mail me. If you have information that is pertinent to this notification process, please send it to me to be included in the routine report.

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